

METHOD OF FORMING A MATERIAL FILM

Abstract

A method of forming a material film is provided. A chemical vapor deposition (CVD) chamber including therein a showerhead coupled to a gas source and a pedestal coupled to a heater is provided. The showerhead is coupled to a radio frequency (RF) power source. A substrate is positioned on the pedestal. The substrate is then heated by the heater. A tantalum-containing organic metal precursor gas is flowed into the CVD chamber through the showerhead with the RF power source being off, thereby depositing a material film on the heated substrate. Thereafter the RF power source is turned on to output a RF power. An inert gas is flowed into the chamber. The material film in-situ plasma treated within the CVD chamber by providing the RF power to the inert gas. The substrate is removed out of the CVD chamber.